

B

APPENDIX B

Compiled Water Quality Data for North and South Twin Lakes

Date	Secchi Depth (feet)	Chlorophyll a (ug/L)	Total Phosphorus (ug/L)			
06/21/93	18.3					
08/10/93	14.0					
08/24/93	10.5					
09/18/93	11.5					
05/30/96	10.0	7.76	12.00			
06/27/96	18.5	2.37	7.00			
07/14/96	17.3	4.58	10.00			
08/18/96	16.3	2.76	9.00			
10/14/96	12.5	8.64	18.00			
05/04/97	10.5		22.00			
06/26/97	21.5	1.44	34.00			
07/27/97	23.5					
08/29/97	16.5					
08/29/97		2.27	25.00			
10/17/97	16.5	11.00	29.00			
04/18/98	10.0		31.00			
06/02/98	15.8	2.73	21.00			
07/11/98	17.8	3.00	12.00			
08/14/98	10.0	5.70	17.00			
10/26/98	10.3	22.10	25.00			
05/09/99	10.5					
06/20/99	17.5	0.90	11.00			
07/11/99	15.0	2.70	10.00			
08/20/99	11.8	7.00	18.00			
10/15/99	11.5	5.00	18.00			
04/26/00	15.3		21.00			
06/08/00	14.0	2.00	12.00			
06/27/00	16.5					
07/04/00	13.3					
07/13/00	12.8	5.00	18.00			
08/05/00	12.8					
08/14/00	14.0					
08/16/00	13.3	3.00	18.00			
08/21/00	10.5					
09/15/00	10.3					
10/01/00	9.0					
10/08/00	10.3					
10/11/00	11.0	6.00	21.00			
10/17/00	12.5					
10/26/00	15.0					
05/15/01	13.0		15.00			
05/29/01	15.5					
06/16/01	11.3	2.60	24.00			
06/30/01	9.5					
07/08/01	8.8					
07/16/01	9.8	8.00	16.00			
08/02/01	7.8					
08/08/01	8.5	5.00	19.00			
08/14/01	8.0					
09/02/01	10.0					
09/25/01	10.5					
10/11/01	12.5	9.00	19.00			
05/11/02	11.0		18.00			
05/21/02	9.3					

Date	Secchi Depth (feett)	Chlorophyll a (ug/L)	Total Phosphorus (ug/L)			
06/08/02	15.8	1.00	12.00			
06/24/02	17.5					
07/11/02	17.5	2.00	13.00			
07/26/02	16.5					
08/11/02	17.0	2.00	14.00			
09/12/02	15.8					
09/28/02	11.3					
10/10/02	12.8	4.00	23.00			
10/14/02	13.5					
05/16/03	13.5		14.00			
06/03/03	20.8	1.27	9.00			
06/16/03	23.8					
07/01/03	15.5	2.56	11.00			
07/06/03	16.3					
08/07/03	14.8	1.84	10.00			
08/23/03	14.8					
09/08/03	14.0					
09/25/03	9.5					
10/07/03	11.3	8.62	21.00			
05/10/04	10.3		20.00			
05/26/04	9.8					
06/10/04	14.0		13.00			
07/09/04	9.0	7.59	15.00			
07/24/04	14.3					
08/09/04	14.5					
08/21/04	9.3	2.95	20.00			
09/12/04	12.3					
09/25/04	10.0					
10/10/04	13.5	3.52	23.00			
05/04/05	10.3		20.00			
05/24/05	16.5					
06/07/05	21.8	1.35	14.00			
07/06/05	16.8	5.09	14.00			
07/17/05	17.5					
07/29/05	15.0					
08/07/05	14.5	2.67	16.00			
08/27/05	13.3					
09/21/05	10.8					
10/09/05	11.8	9.89	23.00			

North Twin Site 2	TP (ug/L)		Chla (ug/L)		Secchi Depth (ft)	
	Summer Season		Summer Season		Summer Season	
	Count	Mean	Count	Mean	Count	Mean
1993					3	14.3
1996	3	8.7	3	3.2	3	17.3
1997	2	29.5	2	1.9	3	20.5
1998	3	16.7	3	3.8	3	14.5
1999	3	13.0	3	3.5	3	14.8
2000	3	16.0	3	3.3	8	13.4
2001	3	19.67	3	5.20	7	9.1
2002	3	13.00	3	1.67	5	16.9
2003	3	10.00	3	1.89	6	17.6
2004	3	16.0	2	5.27	5	12.2
2005	3	14.7	3	3.04	6	16.5
All Years (weighted)		15.2		3.3		14.7
Northeast Region		19.0		9.3		8.9
WI Natural Lakes		25.0		13.4		7.9
Wisconsin Trophic State Index (WTSI)						
Year	TP	Chla	SD			
1993			38.82			
1996	44.94	43.57	36.00			
1997	54.48	39.40	33.58			
1998	50.03	44.80	38.57			
1999	48.10	44.23	38.33			
2000	49.72	43.79	39.74			
2001	51.32	47.13	45.34			
2002	48.10	38.60	36.41			
2003	46.06	39.54	35.76			
2004	49.72	47.23	41.06			
2005	49.04	43.10	36.75			
All Years (weighted)	49.34	43.64	38.38			
Northeast Region	51.05	51.49	45.61			
WI Natural Lakes	53.19	54.23	47.33			

Date	Secchi Depth (feett)	Chlorophyll a (ug/L)	Total Phosphorus (ug/L)			
07/10/79		2.99	13.00			
07/10/79	16.0					
06/11/93	13.3					
06/20/93	17.0					
07/10/93	16.0					
07/18/93	14.3					
07/25/93	13.0					
08/07/93	11.3					
08/17/93	12.8					
08/29/93	13.3					
09/06/93	12.5					
07/03/94	15.5					
08/12/94	12.3					
08/20/94	11.8					
06/09/95	16.8					
06/24/95	16.0					
07/01/95	13.8					
07/16/95	12.5					
07/22/95	12.0					
07/28/95	12.8					
08/05/95	12.0					
08/12/95	11.8					
08/21/95	12.5					
09/04/95	12.8					
09/18/95	13.3					
06/08/96	14.0					
06/24/96	15.5					
07/06/96	15.0	1.76	15.00			
07/26/96	13.0					
08/04/96	13.0					
08/16/96	12.3					
08/21/96	13.0	2.85	9.00			
08/30/96	13.5					
09/06/96	12.5					
09/19/96	11.0					
09/23/96	9.0					
10/05/96	10.0	7.12	17.00			
10/05/96	10.0					
10/08/96	7.5					
10/19/96	10.0	6.95	16.00			
10/21/96	11.0					
05/06/97			22.00			
06/17/97	13.0					
07/01/97	16.0					
07/16/97	14.0					
08/06/97	12.0					
08/21/97	13.0					
08/22/97	10.0	3.70	14.00			
09/04/97	10.0					
10/16/97	8.5	10.10	20.00			
04/22/98			31.00			
04/24/98	11.0		21.00			
06/15/98		1.80	11.00			
06/16/98	15.0					
07/20/98		2.15	12.00			
07/22/98	11.0					
08/21/98	9.0	3.02	14.00			

Date	Secchi Depth (feett)	Chlorophyll a (ug/L)	Total Phosphorus (ug/L)			
10/27/98	12.8	7.32	15.00			
06/17/99	10.0	2.50	10.00			
07/20/99	13.5					
08/25/99	10.0					
10/14/99	8.0					
06/19/00	13.0	2.00	9.00			
06/27/00	12.0					
07/04/00	12.0					
07/19/00	10.0	4.00	13.00			
07/29/00	10.0					
08/14/00	13.0	2.00	14.00			
08/21/00	12.0					
10/11/00	11.0	6.00	25.00			
05/20/01	13.0					
06/27/01		1.00	15.00			
07/08/01	9.5					
07/23/01	8.0					
07/26/01	5.0	6.00	22.00			
08/08/01	6.0					
08/22/01	8.0	2.00	29.00			
08/24/01	9.0					
09/10/01	8.0					
09/27/01	6.0					
10/12/01	12.0					
10/29/01	11.0	10.00	19.00			
07/15/02	16.0	0.00	14.00			
08/14/02	10.5					
08/16/02	13.0	3.00	12.00			
10/11/02	10.0	6.00	26.00			
05/17/03	10.5		8.00			
06/11/03	18.0					
06/24/03	15.0	2.57	10.00			
06/28/03	14.0					
07/09/03	19.0	1.70	10.00			
07/16/03	16.0					
07/22/03	14.5					
08/04/03	12.0					
08/13/03	14.5	2.07	11.00			
08/24/03	12.5					
08/31/03	9.5					
09/07/03	12.0					
09/16/03	12.0					
09/24/03	6.5					
10/07/03	11.6	10.00	21.00			
05/26/04	13.0		17.00			
06/15/04	11.0	4.62	13.00			
06/30/04	11.0					
07/10/04	10.0	10.60	15.00			
07/15/04	9.0					
07/30/04	11.0					
08/03/04	11.0					
08/13/04	8.0	4.26	16.00			
09/04/04	10.0					
09/12/04	11.0					
10/09/04	9.0	9.05	25.00			
10/10/04	9.0					
05/25/05			16.00			
06/18/05		1.83	11.00			
07/19/05		3.05	17.00			

South Twin	TP (ug/L)		Chla (ug/L)		Secchi Depth (ft)	
	Summer Season		Summer Season		Summer Season	
	Year	Count	Mean	Count	Mean	Count
1979	1	13.00	1	2.99	1	16.0
1993					8	13.8
1994					3	13.2
1995					9	13.3
1996	2	12.00	2	2.31	8	13.7
1997	1	14.00	1	3.70	6	13.0
1998	3	12.33	3	2.32	3	11.7
1999	1	10.00	1	2.50	3	11.2
2000	3	12.00	3	2.67	7	11.7
2001	3	22.00	3	3.00	7	7.9
2002	2	13.00	2	2.14	3	13.2
2003	3	10.33	3	2.11	10	14.5
2004	3	14.67	3	6.49	9	10.2
2005	2	14.00	2	2.44	3	12.8
All Years (weighted)		13.7		3.0		12.4
Northeast Region		19.0		9.3		8.9
WI Natural Lakes		25		13.4		7.9
Wisconsin Trophic State Index (WTSI)						
Year	TP	Chla	SD			
1979	48.10	42.98	37.15			
1993			39.24			
1994			39.96			
1995			39.78			
1996	47.48	41.03	39.44			
1997	48.68	44.58	40.15			
1998	47.69	41.09	41.71			
1999	46.06	41.64	42.34			
2000	47.48	42.12	41.65			
2001	52.19	43.01	47.28			
2002	48.10	40.45	39.96			
2003	46.31	40.38	38.57			
2004	49.04	48.79	43.61			
2005	48.68	41.46	40.33			
All Years (weighted)	48.51	43.08	40.79			
Northeast Region	51.05	51.49	45.61			
WI Natural Lakes	53.19	54.23	47.33			